

ABSTRACT OF THE DISCLOSURE

An intensity modulated radiation therapy (IMRT) system including a radiation beam delivery device positionable in a plurality of spatial orientations, an IMRT control system adapted to modulate at least an intensity of a radiation beam emanating from the radiation beam delivery device depending on at least one of the spatial orientations of the radiation beam delivery device and in accordance with an IMRT intensity map, and a multilayer multileaf collimator placed in a path of the radiation beam emanating from the radiation beam delivery device, the multilayer multileaf collimator including a plurality of layers of radiation blocking leaves, the layers being at different positions along the path of the radiation beam generally traverse to the radiation beam.